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Committee on the Peaceful Uses of Outer Space

406th Meeting
Monday, 12 June 1995, 3 p.m.
Vienna

Chairman: Mr. Peter Hohenfellner

The meeting was called to order at 3.20 p.m.

Opening of the session

The Chairman: I now declare open the thirty-eighth session of the Committee on the Peaceful Uses of Outer Space.

Adoption of the agenda (A/AC.105/L.206, Add.1 and Corr.1)

The agenda was adopted.

Election of a Vice-Chairman

The Chairman: The Chair has received a letter informing the Committee that, owing to his other professional commitments, Ambassador Petru Forna of Romania will be unable to continue his responsibilities as Vice-Chairman of the Committee on the Peaceful Uses of Outer Space. I should like personally and on behalf of the Committee to thank Ambassador Forna for his dedicated service to the Committee over the past year.

The Government of Romania, in keeping with a longstanding tradition, has nominated Mr. Dumitru Mazilu, Ambassador of Romania to the International Organizations in Vienna, to succeed Mr. Forna as Vice-Chairman. We have also been informed by the Chairman of the List D group of countries that Mr. Mazilu's nomination is supported by that Group. I now put the nomination before the Committee. Unless there are any other nominations, I shall take it that the nomination of Romania is acceptable to the Committee.

As there is none, I consider Mr. Mazilu to have been elected unanimously as Vice-Chairman of the Committee on the Peaceful Uses of Outer Space. I should like, on behalf of the members of the Committee, to congratulate him and ask him to take his place on the podium.

Mr. Mazilu took his place on the podium.

Attendance by non-members of the Committee

The Chairman: I should like to inform members that I have received notes verbales from Ethiopia, Peru, Saudi Arabia, Thailand, Tunisia, the United Arab Emirates, Yemen and the League of Arab States in which they request permission to attend the current session of the Committee on the Peaceful Uses of Outer Space as observers. I therefore suggest that, in conformity with past practice, we invite those delegations to attend the current session and to address the Committee as appropriate.

This is, of course, without prejudice to further requests of this nature and does not involve any decision by the Committee concerning status. It is a courtesy we customarily extend to delegations.

If there is no objection, we shall proceed accordingly.

It was so decided.

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Statement by the Chairman

The Chairman: It is my pleasure to welcome you all to the thirty-eighth session of the Committee on the Peaceful Uses of Outer Space. I am pleased to note that we are meeting in the very month when a milestone in the course of international cooperation in outer space is being reached. I am referring, of course, to the docking between the Mir space station and the space shuttle "Endeavor". This represents not only a complex level of technical cooperation between two former rivals, which emphasizes the end of the political and ideological conflicts of the cold war, but also cooperation between two systems with two different cultures, which requires mutual understanding and trust.

As humankind takes further steps in the exploration and exploitation of outer space, the importance of international cooperation continues to grow. This is in part due to financial constraints in many countries, which have become one of the driving forces for promoting cooperation as countries seek to share the burden of costly space activities. However, beyond a mere desire to reduce costs, international cooperation is also often a useful tool to persuade people who are reluctant to allocate resources for space activities to accept and approve ongoing or planned projects in space.

Another driving force is the recognition that international cooperation is essential in certain space activities which transcend national interests, such as monitoring and safeguarding the environment, and which are vital for all countries. Needless to say, effective international cooperation is not possible without mutual understanding and confidence among participating countries. For half a century, the United Nations has continued to provide members of the global community with opportunities to exchange views and express opinions, which has contributed to the enhancement of mutual understanding and confidence among them. The Organization will continue to do so in accordance with the purposes and principles enshrined in its Charter.

As part of the Organization, the Committee on the Peaceful Uses of Outer Space has, since it was first established as an ad hoc committee in 1958, committed itself to enhancing international cooperation in space and has continued to provide opportunities for countries with interests in space affairs to voice their opinions. This year, as the Organization celebrates its fiftieth anniversary, the Committee welcomes its new members: Cuba, Peru, Kazakstan Malaysia, Nicaragua, Republic of Korea, Senegal and South Africa. Although the enlargement of the Committee was a contentious issue at times, it was nevertheless achieved through the hard work and mutual effort of all members, and I should like to express my thanks to all delegations which supported my work on this difficult matter.

While the enlargement certainly allows the Committee to benefit from more new ideas in considering various key issues in outer space, it is also a challenge for the Committee to maintain its unique and effective way of conducting its work, which is based on the principle of consensus. I firmly believe that maintaining the principle of consensus is the only way to ensure the continued effectiveness of the Committee. In that light, it is my sincere desire that all members of the Committee should actively participate in good faith in the consideration of the items before us.

On behalf of the Committee, I should like to thank the Chairman of the Scientific and Technical Subcommittee, Professor John Carver of Australia, for his outstanding work in guiding the work of that Subcommittee. Professor Carver has indicated his intention to retire at the end of this year's session after more than 25 years — a quarter of a century — of distinguished service to the United Nations and the international community. Many of the achievements of the Scientific and Technical Subcommittee, and indeed of this Committee, would never have been possible without his strenuous efforts and his commitment to promoting international cooperation in space activities.

I should also like to thank the Chairman of the Legal Subcommittee, Mr. Václav Mikulka of the Czech Republic, for his work in guiding the discussions on the difficult and complicated issues before that Subcommittee.

I should like now briefly to review the achievements in outer space of the past year. In the field of manned spaceflight, the permanent occupation of the Russian Federation's Mir space station by rotating crews has continued. A new crew, consisting of cosmonauts Victor Afanasyev and Yuri Usachev, took over the station on 8 January 1994. Accompanying the cosmonauts was Valery Polyakov, a medical doctor, who had conducted a record-breaking 437 days of biomedical investigations in space by the time he returned from orbit on 22 March 1995.

After spending 182 days in space, Afanasyev and Usachev were replaced in July 1994 by the 16th main expedition to the Mir orbital complex. Cosmonauts Yuri Malenchenko and Talgat Musabayev — the second Kazak cosmonaut — worked in space for 125 days and returned safely to Earth on 4 November 1994. Their "relay" in space was taken by Alexander Viktorenko and Yelena Kondakova, the first woman to undertake a long-duration spaceflight of several months. After 169 days of research work, they returned from orbit on 22 March 1995, together with Dr. Polyakov. The accrued data, in combination with the medical results of other long-duration flights, should provide a better insight into the complex problems of human reactions to the extreme conditions of outer space.

The most encouraging development in the field of manned space missions continues to be the increasing level of cooperation between the two major space Powers. According to an agreement between the Russian Federation and the United States that was signed last year, there will be at least seven shuttle flights involving docking with the Mir space station. Apart from preparations for the development of the International Space Station, the flights will also be used to transport astronauts, cosmonauts and instruments to and from the Mir station. We have already seen two flights of Russian cosmonauts on the space shuttle — Sergei Krikalev in February 1994 and Vladimir Titov in February 1995. During this year's international flight, the shuttle "Discovery" successfully manoeuvred around the Mir station and remained station-keeping at a distance of 10 metres for about five minutes.

The next step in this cooperative programme was the launching of the 18th regular crew to Mir on 14 March 1995. The crew of Soyuz TM-21 was composed of Vladimir Dezhurov, Gennady Strekalov and the American medical doctor Norman Thagard. This was the first time a United States citizen had been launched into space on a Russian spacecraft. The international crew is now working in orbit and is scheduled to be returned to the Earth later this month on the space shuttle "Atlantis".

It is not possible to cover in this introductory statement all important fields of space research and applications. Let me just briefly cover those with a distinctive international tone.

The European Space Agency (ESA) Ulysses spacecraft became the first vehicle in history to reach a polar region of the Sun when it passed over the Sun's southern polar area on 26 June 1994 after a journey of almost four years. Ulysses was deployed from the space shuttle "Atlantis" in October 1990 and passed around Jupiter in February 1992 in order to utilize its gravity field for a profound change of its heliocentric orbit. Continuing its successful flight, the spacecraft passed within 200 million kilometres of the Sun on 12 March and will begin its first traverse of the Sun's northern polar region on 19 June 1995. Ulysses mission scientists have found that in the solar polar regions, the solar wind flows at a very high velocity of about 750 kilometres per second, nearly double the speed at which the solar wind is known to flow at lower latitudes.

This part of the Ulysses space probe flight coincides with the twentieth anniversary of the establishment of ESA on 30 May 1975. After last year's admission of Finland, its membership now stands at 14 States from Europe, with Canada as an official cooperating State. ESA, which also has observer status with our Committee, is a very important partner in most of the activities related to the exploration and peaceful uses of outer space.

Speaking of anniversaries, I should like to remind representatives that the Hubble space telescope was launched from the space shuttle "Discovery" five years ago, on 25 April 1990. At the time, its resolution was expected to be 10 times better than any telescope on Earth and it was poised to open a new era in astronomy. Within a few months, however, a flaw was discovered in Hubble's main mirror which significantly reduced its ability to focus. In spite of that, the telescope provided, during its first three years of operation, significant new information and discoveries about the universe, including detailed images of supernova 1987A and a disk of cold gas fuelling a black hole. The participation of astronomers from all countries in the observational programme of the telescope is coordinated by the Space Telescope Science Institute in Baltimore, United States, and the European Coordination Facility in Garching, Germany.

The Hubble space telescope was repaired by space shuttle astronauts during five dramatic spacewalks in December 1993 and has been fully operational since January 1994. Highlights of recent observations from the telescope include compelling evidence of a massive black hole in the centre of a giant elliptical galaxy located 50 million light years away, significant progress in determining the age and size of the universe, and observations of the spectacular impact of Comet Shoemaker-Levy 9 with Jupiter in July last year. More recently, dramatic pictures of storms in the atmospheres

of Saturn and Neptune, as well as documentation of weather changes on Mars and Venus, have revealed that these atmospheres are much more active than was previously believed. The ability of Hubble to "revisit" the planets allows frequent monitoring similar to that of Earth weather satellites. Hubble pictures also provide the best view yet of the complex surface of the asteroid Vesta, which has similar geological characteristics to some of the terrestrial planets, even though its diameter is only 530 kilometres. Because Hubble can resolve features down to 80 kilometres, its pictures show a surprisingly diverse world with an exposed mantle, ancient lava flows and impact basins.

Of course, complex and expensive spacecraft are not necessarily prerequisites for the conduct of scientific research in space. With the advent of modern technology, particularly microelectronics, small satellites offer increasingly less complex and less costly access to space. For example, the Swedish satellite for magnetospheric research, called Astrid, weighs only 28 kilos. It was launched on 24 January as a piggyback with a Russian Tsikada navigation satellite and another small satellite for experimental communications, Faisat, belonging to the United States. A small scientific satellite for atmospheric research, Microlab, as well as two experimental communication satellites, were launched from California by a Pegasus launcher on 3 March 1995. A 20-kilo laser reflecting geodetic satellite, the German GFZ-1, was delivered to Mir by the Progress M-27 cargo craft and ejected into orbit on 19 April 1995. Several small satellites have been similarly placed in orbit from the space shuttle. For example, in February of this year, six ODERACS-2 subsatellites were released from "Discovery" to test the tracking capabilities of ground-based radar and optical sensors. This experiment is obviously closely related to the problem of space debris.

Larger astronomical satellites, such as Spartan-201 and Spartan-204, as well as the CRISTAS-SPAS atmospheric sciences satellite developed in cooperation with Germany, were released and, after several days of research, recaptured by the space shuttle. Later this year, another shuttle flight will be used to recover the Japanese experimental Space Flyer Unit, which was launched on 18 March by a new Japanese rocket, the H-II. India launched a new scientific satellite, the SROSS-C2, on one of its several indigenously designed and produced launchers. During its first year of operation, the satellite detected 12 gamma ray bursts. Indian scientists are now comparing these records with data from similar orbiting instruments and analyzing some 600 sets of ionospheric data gathered over India.

We should never fail to appreciate the advantages that progress in space exploration provides to humanity through applications such as remote sensing, meteorology and global communications and navigation.

The second Earth resources satellite of the European Space Agency (ESA), ERS-2, was launched on 21 April on Ariane flight V72. The spacecraft will be operated in tandem with ERS-1 to obtain more complex data on the sea surface and polar ice. It is equipped with a 10-metre synthetic-aperture radar antenna for detailed radar imaging, an active microwave imager instrument, a radar altimeter for monitoring sea-wave heights, a radiometer for the measurement of sea-surface temperatures, a global ozone monitoring instrument and a precise orbit-determination instrument. The first experimental image from the new satellite, capturing a segment of the Campania region in central Italy, was received at the Frascati ground station in early May. Because the ERS-1 satellite is orbiting at a pre-selected distance from the new satellite, it was possible to combine their data in order to produce the first colour multitemporal images of that region.

India also conducts an extremely successful remote sensing programme. During the second developmental launch of the Polar Satellite Launch Vehicle from the Sriharikota range on 15 October 1994, the newest Indian remote sensing satellite, IRS-P2, was successfully placed in a near-polar sun-synchronous orbit of about 825 kilometres.

Meteorology is another field in which there has always been a significant level of international cooperation. The launching of the Russian Federation's first operational geostationary meteorological satellite, Elektro, into its position above the Indian Ocean in October, completed an international network of geostationary meteorological satellites. Other satellites in the network are provided by ESA, Japan and the United States, and together they form the Global Observing System, which is coordinated by the World Meteorological Organization. The United States launched the first of its next-generation geostationary weather satellites for the National Oceanic and Atmospheric Administration (NOAA) and the world meteorological community.

New geostationary telecommunication satellites are launched frequently, often as part of international commercial projects. Chinese launchers were used to launch the Optus-B1 satellite for communications in Australia and the Apstar-A1 for the Asia-Pacific Telecommunications Company, based in Hong Kong. The European Ariane-4 launcher successfully orbited satellites for communications over Brazil, Europe — the Astra-1D and the Eutelsat Hotbird-1 — Mexico — the Solidaridad-2 — Thailand and Turkey. Those satellites are dedicated to regional communications and transmission of radio and television broadcasts, usually to small receiving antennas.

Another rapidly expanding area of space applications is satellite navigation systems, which were developed mainly for military purposes but are now widely used for civilian and commercial applications. The United States Global Positioning System — the famous GPS — consisting of 24 Navstar spacecraft, provides instant, global, three-dimensional position information 24 hours a day, and civilian users can determine their location within 100 metres. In addition to applications for fishermen and other maritime users, satellite navigation systems are improving air traffic control and spacing, particularly over long-range transoceanic routes lacking radar coverage. A similar system, developed in the Russian Federation and called the Global Navigation Satellite System (GLONASS), is now also available for world-wide users and provides applications similar to those of the GPS.

There will be a full constellation of 24 GLONASS satellites in orbit by the end of 1995. The newer GLONASS satellites will have an in-orbit life of five years, compared with three years for the earlier version. An option for the near- and medium-term is the use of an overlay. This is likely to be provided by the five INMARSAT-3 navigation packages, due to begin operation in early 1996, and the two Japanese MTS satellites due for launch in 2000 and 2004. The proposed INMARSAT system will offer an enhancement to GPS and GLONASS and is being called a "civil overlay". It will have the potential to offer both increased accuracy — better than 100 metres — greater reliability and a wider range of services than currently operating systems.

As a final note with regard to the GPS, members will recall that last year I mentioned the development of a GPS-based system being tested in the United States that would help drivers navigate city streets and highways, as well as provide police with location information in the event of theft. The developers of that system, called Project Northstar, are currently evaluating the results of those tests with a view to introducing it into the market in the near future. One United States car manufacturer has already introduced, as an option, a GPS-based navigation system, illustrating once again some of the practical uses of space technology in our everyday lives.

I should like to give the Committee two more interesting examples of the practical applications of space technology. This spring a trial began of a satellite mapping system, utilizing ESA's ERS-1 satellite, that plots the position of ice floes as small as 100 metres across over thousands of square kilometres in the Arctic Ocean. Researchers from the United Kingdom then generate special maps and fax them on a daily basis to a survey ship conducting operations off the coast of Greenland. Other ships operating in northern waters can already receive daily ice charts via marine satellite communications links. Countries such as Canada, Norway and the Russian Federation have organizations that plot the charts manually from photographs and infrared images taken by satellite and reports from ships. Some of these maps have a resolution of at least one kilometre and are not detailed enough for some purposes. The ERS-1 radar satellite is therefore being used to provide more accurate data, and a planned commercial radar mapping system for Arctic navigation will also utilize the Canadian Radarsat satellite, scheduled for launch later in 1995.

Another interesting example of the practical benefits of space, this time in the field of medical spin-offs from space technology, concerns AIDS research. The United States National Institutes of Health has an agreement with the United States National Aeronautics and Space Administration (NASA) to share the space agency's expertise in growing cells in three-dimensional cultures. The aim is to design a model of a human lymph node — the body's main reservoir for the HIV virus — so that scientists can learn more about the way the virus destroys the immune system. Most cultures of human cells are grown in the laboratory in flat dishes, where they form a thin layer, or in suspension in droplets from wells. Both are poor imitations of three-dimensional tissues such as tumors or organs.

But back in the mid-1980s, NASA engineers in Houston, Texas, designed a special bioreactor to keep cells alive for experiments in space. The researchers found that cells cultured in the rotating bioreactor clumped together and grew in three dimensions; in some cases, the cells could even be differentiated into specialized types. In three dimensions, scientists can

study the way cells interact with each other in a way that is not possible in flat layers, which could be an important advantage for AIDS research.

As representatives may have noticed, the momentum for international cooperation in space activities is ever-accelerating, and activities in space have become an essential part of the economic and social advancement of all peoples. With this in mind, I should like to turn our attention to the agenda items that are before this Committee.

The General Assembly has once again asked the Committee to consider, as a matter of priority, ways and means of maintaining outer space for peaceful purposes, and to report thereon to it at its fiftieth session.

As representatives may be aware, there are continuing efforts within the international community to ensure the peaceful uses of outer space. These efforts validate the recommendations made two years ago by the Secretary-General in his report "International cooperation in space activities for enhancing security in the post-cold-war era" (A/48/221). For example, there has been renewed interest regarding the development of a fleet of all-European military observation and data-relay satellites, which would contribute to the maintenance of international security in the region. Around the world, there have been many opportunities to discuss the dual use of space systems, and several initiatives have been taken to make military satellite data available for civilian purposes. In the context of these developments, and taking into account the recommendations of the Secretary-General, this Committee may wish to consider the contributions it can make to the maintenance of outer space for peaceful purposes and to review its role within the Organization towards that goal.

I should like now to draw the attention of representatives to the report (A/AC.105/605) of the Scientific and Technical Subcommittee on the work of its thirty-second session, which we have before us. In accordance with the Committee's recommendations, which were subsequently endorsed by the General Assembly, the Subcommittee once again discussed several items on a priority basis.

Following its past practice, the Subcommittee considered jointly the agenda items on the United Nations Programme on Space Applications and the implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82).

For the ninth time, the Subcommittee reconvened its Working Group of the Whole to evaluate the implementation of these recommendations. The report of the Working Group is contained in Annex II of the Subcommittee's report.

I should like to thank Mr. Muhammed Jameel of Pakistan, who served as the Chairman of the Working Group of the Whole at this year's session, taking the place of his compatriot Mr. Muhammed Nasim Shah, who could not attend the session due to other commitments related to his current responsibilities in Pakistan. It is expected that Mr. Shah will resume his chairmanship of the Working Group at its next session in 1996.

The Working Group noted with satisfaction the valuable efforts of the United Nations, Member States and other international organizations to implement the recommendations of UNISPACE 82. Recognizing that some of these recommendations had yet to be fully implemented, the Working Group made several recommendations and identified four priority areas where further efforts should be made to promote the applications of space science and technology for development.

The first area to be identified was the stimulation and support of the growth of indigenous nuclei and an autonomous technological base in space technology in developing countries. The Working Group recalled that UNISPACE 82 recommended the free exchange of scientific and technological information and an arrangement for the transfer of technologies to promote the use and development of space technology in the developing countries. However, despite these recommendations, there remain many undue restrictions on the sale of components, subsystems or systems required for peaceful space applications. The Working Group concluded that there needed to be a greater international understanding and cooperation in order to overcome the difficulties faced by the developing countries in this respect.

With regard to the promotion of a greater exchange of actual experiences in space applications, the Working Group reiterated the recommendation of UNISPACE 82 that appropriate assistance be given, particularly by international financial agencies, to support demonstration projects to provide opportunities for hands-on experience in space technology and applications for the developing

countries through direct involvement in such applications projects or pilot projects.

Concerning United Nations funding, the Working Group reaffirmed the view that the Programme on Space Applications should be given the full support of the United Nations in order to fully implement the recommendations of UNISPACE 82.

Finally, the Working Group expressed its appreciation to those Member States and international organizations that had supported the Programme on Space Applications with voluntary cash and in-kind contributions for the activities being undertaken by the Programme on Space Applications.

Regarding the possible convening of a third UNISPACE, the Working Group noted the agreement of the General Assembly at its forty-ninth session that a third UNISPACE could be convened in the near future and that, prior to recommending a date for the Conference, there should be a consensus recommendation on the agenda, venue and funding of the Conference. It also noted the agreement of the General Assembly that the Subcommittee should discuss a broad range of themes and subjects that could be refined into a sharply focused and detailed agenda and should also continue its examination of other means of achieving the goals set for such a conference.

The Working Group had before it the document prepared by the Secretariat containing the various ideas submitted to the Committee regarding the agenda and organization of a third UNISPACE Conference (A/AC.105/575/Add.1). This document was prepared in response to a request by the Committee last year to facilitate further consideration of the matter by the Subcommittee at this year's session.

During the consideration of matters related to a third UNISPACE, the Working Group of the Whole set up an informal, open-ended drafting group with the task of preparing a report on the matter, based on discussions among members and the background material already available. I should like to thank cordially Mr. Richard Tremayne-Smith of the United Kingdom, who assumed the chairmanship of the drafting group, for his outstanding work in successfully carrying out this difficult task.

The report of the drafting group, as contained in the appendix to the report of the Working Group of the Whole, reflects the discussions within the drafting group concerning the objectives and organization of the Conference, other means to achieve the goals set for the Conference and other ideas presented by delegations. The Working Group of the Whole made significant progress in its consideration of matters related to a third UNISPACE and agreed that further discussions should take place at this session of the Committee.

These are some of the recommendations made by the Working Group of the Whole. I will leave further discussion on those issues raised by the Working Group for our consideration. Regarding the last issue, the third UNISPACE conference, the Scientific and Technical Subcommittee considered this issue under "Other Matters". The Subcommittee agreed that the report of the Working Group of the Whole should provide the basis for continued discussions by the Committee on a recommendation to the General Assembly regarding the agenda, timing, funding and organization of such a conference.

It is my hope that we can make additional progress on this matter over the next two weeks and be in a position to make a recommendation to the General Assembly, as was requested of us in resolution 49/34.

I look forward to further discussions on this important issue at this session with a view to making a consensus recommendation to the General Assembly. I invite all delegations to participate in the constructive discussion during our consideration of this item, which I suggest we conduct during our consideration of item 5 on our agenda, "Report of the Scientific and Technical Subcommittee".

The Subcommittee commended the work carried out in the past year by the Programme on Space Applications, reviewed the progress on the 1995 activities and approved the proposed programme for 1996. I should like, in particular, to draw attention to the Subcommittee's reiterated appeal for support for the Programme through voluntary contributions. It is my belief that this appeal deserves the serious consideration of the United Nations family, and especially the strong support of the members of this Committee.

With regard to the establishment of regional centres for space science and technology education, continued efforts have been made under the Programme on Space Applications towards that goal. As may be recalled, evaluation missions to four regions had been concluded by the time this Committee met last year. Host countries for the centres in the Latin American and Caribbean and the Asia-Pacific regions have already been selected.

Those host countries have since reaffirmed their commitment to the prompt establishment of the centres, while other countries in those regions have indicated their intention to participate in the work and activities of the centres. Positive discussions are also under way with regard to the establishment of a centre for the region covered by the Economic Cooperation Organization (ECO).

As for the other regions, the concerned countries have reaffirmed their offer to host the centres. While I would invite other Member States that are not yet involved in the efforts to establish the regional centres to join those efforts, I would also appeal to those Member States which are already involved to continue working with each other in the respective regions and with the United Nations on this important initiative.

As another priority item, the Subcommittee once again considered matters relating to remote sensing of the Earth by satellites. After reviewing the remote sensing activities of Member States, the Subcommittee reiterated its view that these activities should take into account the need to provide appropriate and non-discriminatory assistance to meet the needs of the developing countries. The Subcommittee also noted that it was important to make remote sensing data and analyzed information openly available to all countries at a reasonable cost and in a timely manner. The Subcommittee considered that international cooperation in the use of remote sensing satellites should be encouraged, both through coordination of ground station operations and through regular meetings between satellite operators and users. The request has been made that this item be retained as a priority item on the agenda of the Subcommittee.

In accordance with General Assembly resolution 49/34, the Subcommittee also continued its consideration of the item relating to the use of nuclear power sources in outer space as a priority item. With regard to the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, as contained in General Assembly resolution 47/68 of 14 December 1992, the Subcommittee noted that the Principles provided that they should be reopened for revision by this Committee no later than two years after their adoption. The Subcommittee also recalled that at last year's session this Committee agreed that the Principles should remain in their current form until amended and that, before amendment, proper consideration should be given to the aims and objectives of any proposed revision. The Subcommittee agreed that, at the present time, revision of the Principles was not warranted.

Also in accordance with General Assembly resolution 49/34, the Working Group on the Use of Nuclear Power Sources in Outer Space was reconvened under the chairmanship of Professor Carver of Australia, but, on account of the view of Member States that revision of the Principles was not necessary at this point, no further work was undertaken in the Working Group at this session of the Subcommittee.

During its consideration of the item the Subcommittee heard scientific and technical presentations on nuclear power sources by the Russian Federation and the United Kingdom. The Subcommittee also noted the statement made by the International Atomic Energy Agency (IAEA) drawing attention to recent developments in nuclear safety.

The Subcommittee agreed that regular discussions on the use of nuclear power sources in outer space should continue at future sessions. The Subcommittee also agreed that the Subcommittee and the Working Group on this item should continue to receive the widest input on matters affecting the use of nuclear power sources in outer space and any contribution related to improving the scope and application of the Principles.

The Subcommittee further agreed that Member States should continue to be invited to report to the Secretary-General on a regular basis with regard to national and international research concerning the safety of orbiting space objects with nuclear power sources. The Subcommittee also agreed that further studies should be conducted on the issue of the collision of orbiting space objects with nuclear power sources on board with space debris and that it should be kept informed of the results of such studies.

At this year's session, in accordance with General Assembly resolution 49/34, the item on space debris was included on the agenda of the Subcommittee for its consideration on a priority basis. The Subcommittee expressed its satisfaction at having the subject of space debris as a priority agenda item and reiterated its agreement that international cooperation was needed to develop appropriate and affordable strategies to minimize the potential impact of space debris on future space missions.

The Subcommittee had before it the United Kingdom's informal working paper on space debris, as well as national reports submitted by other Member States (A/AC.105/593 and Add.1-4). Scientific and

technical presentations on the subject were given by France, India, Poland and the United Kingdom, as well as by the European Space Agency, to provide more information for the discussions of the Subcommittee.

Following its agreement at last year's session to develop a continuing deliberate and specific multi-year plan for its work on the item on space debris, the Subcommittee developed and adopted a work plan for the period 1996-98. According to this work plan, the Subcommittee will consider measurements of space debris, understanding of data and the effects of this environment on space systems in 1996, modelling of space debris environment and risk assessment in 1997, and space debris mitigation measures in 1998. The Subcommittee agreed that the work plan will be implemented with flexibility. Delegations wishing to address the Subcommittee on other aspects of scientific research related to space debris are, of course, free to do so.

We should not underestimate the importance of the Subcommittee's future deliberations on this matter, as there is already increasing concern within the space community over the potential impact that an increasing level of space debris will have on future space activities. Not only will the risk of physical damage to spacecraft increase, but this will bring rising insurance premiums, which may make the cost of utilizing space prohibitive. In order to ensure that countries can continue to utilize outer space in a productive and mutually beneficial manner, it is essential for the international community to grasp the facts on space debris and take any necessary action in a timely manner. Such action will require the concerted efforts of all countries, and I strongly believe that this Committee will be — indeed, that it must be — at the forefront of those actions.

With regard to the matters related to the Earth environment, the Subcommittee noted the importance of international cooperation in various existing and planned satellite systems for environmental monitoring, including the geosphere-biosphere programme known as the Global Change Programme. The Subcommittee recommended that other States consider participating in such cooperative activities. During the consideration of this issue, as well as of the items on life sciences, planetary exploration and astronomy, the Subcommittee also had the opportunity to hear interesting and informative scientific and technical presentations.

Among the agenda items of the Subcommittee, the matters relating to planetary exploration and astronomy may have a direct impact on social and economic development and therefore tend to be targets for budgetary cutbacks when countries face financial difficulties. However, we should not overlook the importance of achievements in those areas in increasing public interest in outer space and stirring the excitement of youth over the future in space. You may still recall the spectacular event of the impact of Comet Shoemaker-Levy 9 with Jupiter in July last year, which became the subject of worldwide interest among scientists, as well as the general public. In the future, international cooperation will become even more important for achieving such dramatic scientific results.

In accordance with General Assembly resolution 49/34, the Subcommittee paid special attention to the theme of the session: "Application of space technology for education, with particular emphasis on its use in developing countries". The importance of education can never be overemphasized. The promotion of education is widely acknowledged as being essential for the economic and social development of a country. The United Nations dedicates itself to the promotion of educational cooperation, as stated in Article 55 (b) of the Charter, with a view to creating the conditions of stability and well-being which are necessary for peaceful and friendly relations among nations. As a part of the Organization, we have the responsibility to consider how space technology can contribute to the promotion of education.

As for the 1996 session of the Subcommittee, the theme fixed for special attention is "Utilization of micro- and small satellites for the expansion of low-cost space activities, taking into account the special needs of developing countries". The Subcommittee has once again recommended to this Committee that the Committee on Space Research (COSPAR) of the International Council of Scientific Unions and the International Astronautical Federation (IAF), in liaison with Member States, be invited to arrange a symposium with as wide a participation as possible to complement discussions on the special theme.

On behalf of the Committee, I should like personally to thank both COSPAR and IAF for sponsoring and assisting in the organization of the symposium on the 1995 theme, which stimulated discussion in the Subcommittee, and for their constant support of the work of the Committee and its two subsidiary bodies.

Finally, before concluding my brief review of the work of the Scientific and Technical Subcommittee, I should like to bring to your attention the fact that the

election of a new Chairman of the Subcommittee will take place at next year's session of the Subcommittee in February 1996. The task of the Chairman of the Scientific and Technical Subcommittee is demanding, requiring exceptional skills and diligence to guide discussions on complex issues. The Committee may therefore wish to consider candidates for this important position at this session in order to enable the Subcommittee to elect a competent Chairman who is able to lead the Subcommittee towards the fulfilment of its tasks on various ongoing issues and who is highly respected in the scientific community.

I should now like to turn to the work of the thirty-fourth session of the Legal Subcommittee, whose report is contained in document A/AC.105/607. On the question of early review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, the Subcommittee noted that the Scientific and Technical Subcommittee had agreed that, at the present time, revision of the Principles was not warranted. In accordance with the decision of this Committee, the Legal Subcommittee decided not to re-establish the working group on this item. The Subcommittee also agreed that, at the present time, revision of the Principles was not warranted and it therefore did not open discussion on that issue during this year's session.

The Subcommittee further agreed that the consideration of this item by the Working Group should again be suspended for one year, pending the results of the work in the Scientific and Technical Subcommittee. This agreement was made without prejudice to the possibility of reconvening the Working Group on this item. I should like once again to support this careful approach taken by the Legal Subcommittee on this agenda item.

With regard to the definition and delimitation of outer space and the characteristics and utilization of the geostationary orbit, the Working Group on this agenda was reconvened under the skilled chairmanship of Mr. Eugenio María Curia of Argentina, who took the place of his compatriot Mr. Estanislao Zawels. I should like to congratulate him on his constructive work in leading discussions on those complex issues, which have been under discussion for many years.

Following past practice, the Working Group divided its consideration of this item into two parts. Concerning the definition and delimitation of outer space, the Working Group focused its discussions on the informal paper entitled "Draft questionnaire concerning aerospace objects" and the two introductory paragraphs to this paper, which were integrated and circulated at this year's session as document A/AC.105/C.2/1995/CRP.3. The Working Group finalized the text of the draft questionnaire and it was agreed that the purpose of the questionnaire was to seek the preliminary views of States members of this Committee on various issues relating to aerospace objects. The Subcommittee agreed that Committee member States should be invited to give their opinions on those matters.

Regarding the geostationary orbit, the Working Group once again conducted a paragraph-by-paragraph review of the working paper entitled "Geostationary satellite orbit", which was introduced by Colombia at the 1993 session. During the discussion on this working paper, several constructive and substantive suggestions were presented by various delegations. Colombia indicated its intention to submit a revised version of the working paper, including an annex giving an explanation of the ideas raised in the working paper, at the next session of the Subcommittee in 1996. Details of these discussions are contained in Annex I of the Subcommittee's report.

Intensive and dynamic discussions took place during the consideration of the agenda item on outer space benefits. The Working Group on this item was reconvened under the chairmanship of Mr. Raimundo Gonzales of Chile. I should like to thank Ambassador Gonzales for his efforts in guiding the discussions in the Working Group towards possible solutions. In addition to the working paper entitled "Principles regarding international cooperation in the exploration and utilization of outer space for peaceful purposes", which was submitted jointly by 11 Member States as a revision to their working paper presented at last year's session, the Working Group had before it a working paper entitled "Declaration on international cooperation in the exploration and use of outer space for the benefit and in the interests of all States, taking into particular account the needs of developing countries", which was submitted jointly by two States members of this Committee.

The exchange of views between the sponsors of the working papers significantly expanded the terms of reference of the debate on this item. In order to promote debate at the next session, the Chairman produced an informal working paper merging the texts of those two working papers, and I am confident that this paper will contribute to further progress on this item at next year's session of the Subcommittee.

In addition to the items on the agenda of the Subcommittee, and in accordance with General Assembly resolution 49/34, the Chairman of the Subcommittee conducted informal, open-ended consultations with all members of the Subcommittee on the working methods and agenda of the Legal Subcommittee. As you may recall, several proposals on this matter were made at last year's session of this Committee. All those proposals were discussed during the consultations in the Legal Subcommittee. Agreements and recommendations were made concerning the duration of the session, the scheduling of meetings of the Subcommittee and its working groups, the allocation of time for a general exchange of views, and the inclusion of other matters, as well as new items on the agenda of the Subcommittee.

I am fully aware that the pace of progress within the Legal Subcommittee might sometimes seem a bit slow, especially when compared to the rapid pace of developments in space science and technology. Nevertheless, in order to reach conclusions which accurately reflect the reality of space activities and address various concerns of Member States, careful and deliberate consideration on the issues concerned is essential.

I have briefly reviewed the reports of the two Subcommittees in the hope that this Committee will be able to conduct productive and fruitful discussions during the next two weeks. I hope that this Committee will be prepared to provide those bodies with meaningful guidance for their future work.

With regard to the other agenda items of this Committee, I should like to briefly discuss the item "Spin-off benefits of space technology: review of current status". As members may be aware, there is increasing interest in this issue within the international community. At last year's session this Committee reiterated its agreement that there was a need to examine ways to strengthen and enhance international cooperation in this field through improved means of providing access to spin-offs for all countries, giving particular attention to those spin-offs that could address the social and economic needs of developing countries. Through the United Nations Programme on Space Applications, preparations are under way for the organization next year of a United Nations-United States international workshop on spin-off benefits of space technology. I look forward to discussions of this important item at this session.

I should now like us to turn our attention to the issues which I suggest should be discussed under "Other matters". At last year's session this Committee agreed to establish a Working Group of the Whole to examine the working methods of the Committee and its subsidiary bodies. As I mentioned earlier, the Chairman of the Legal Subcommittee conducted informal, open-ended consultations with all members of the Subcommittee. The Working Group of the Whole should take into account the results and recommendations of those informal consultations, which are contained in the report of the Legal Subcommittee.

With regard to the efficient utilization of conference services, I should like to bring to the attention of the Committee the fact that, according to statistics provided to the Committee on Conferences, in 1994 the Committee on the Peaceful Uses of Outer Space (COPUOS) was one of several bodies that did not achieve the 70 per cent utilization rate established as the benchmark for all General Assembly bodies. Although this was partly due to our commendable efforts to conclude sessions of the Committee and its Subcommittees as early as possible, which is not taken into account in these utilization rates, I should like to inform the Committee that the General Assembly last year raised the benchmark for conference-service utilization to 80 per cent. Therefore, in order to improve our utilization rate, I have agreed with the Chairman of the Committee on Conferences that every effort will be made to provide the Secretariat, as early as practicable, with information regarding the early conclusion of sessions. Ideally, this information would be provided at the beginning of the second week of our session, which would allow the Secretariat time to assign conference services to other meetings so that they will not be counted as cancelled meetings of our Committee.

Another issue to be considered by the Working Group of the Whole concerns the records of this Committee. In 1993 the Chairman of the Committee on Conferences requested the cooperation of those bodies entitled to written meeting records in reviewing the need for such records, particularly verbatim records. Last year the General Assembly, in its resolution 49/221 B, requested this Committee to submit to the General Assembly this year its justifications for the continuation of the current entitlement to meeting records. In accordance with the agreement of this Committee at last year's session, the Working Group of the Whole will review possible alternatives to verbatim records, with a view to developing a recommendation on the matter. The Secretariat has provided this Committee with information on alternatives to verbatim records that might be available to the Committee, as contained in document

A/AC.105/L.207, and it is my intention to use this document as the basis of our discussions on this matter.

Finally, members may recall that the International Academy of Astronautics (IAA) and the International Astronomical Union (IAU), which are non-governmental organizations, have applied for observer status with the Committee. The related correspondence and the statutes of those organizations were circulated in the Scientific and Technical Subcommittee in February this year as document A/AC.105/C.1/CRP.9. This Committee will consider the observer status of the IAA and the IAU at this very session.

This concludes my review of the activities of the past year and the work before the Committee.

During the past several years we have observed political, economic and social transitions from the cold-war period to the post-cold-war era. Members of the international community, as well as the members of this Committee, have certainly enjoyed increased opportunities for international cooperation since political and ideological concerns ceased to be the primary element in relations between States. However, as we near the end of the twentieth century and the dawn of a new millennium, we should recognize that this transition may be part of a broader pattern, a true paradigm shift from passive to active international cooperation in all areas, particularly with regard to space activities.

We have witnessed many cases in which international cooperation took place in order to share the resources required for costly space projects. These are examples of passive international cooperation, in which a country joined cooperative efforts which would yield certain benefits for that country. Through active international cooperation, a country enters into cooperative efforts not only because it expects some benefits for itself, but also because it believes it can contribute to the overall prosperity of the global community. As the scope of space activities expands, the promotion of international cooperation in outer space has become not merely a goal of the international community, but an essential condition for the continuing prosperity of all States.

As we continue our efforts to expand international cooperation in space activities and bring the benefits of space technology to all Member States, we should keep in mind the special role that this Committee can play in achieving the overall goals of the United Nations. As we look forward to the next 50 years of the Organization, it is therefore important that we begin to think in terms of how we might further integrate the work of the Committee into areas of increased emphasis for the United Nations — in particular, how we can serve as a catalyst for integrating space technologies into the Organization's efforts to implement the recommendations contained in "An Agenda for Peace", "An Agenda for Development", the Secretary-General's policy statement on space activities and those of the relevant world conferences being organized by the United Nations.

Thank you very much for your attention, and my best wishes for a productive session.

Organization of work

Before handling our consideration of item 3 on our agenda, "General exchange of views", I should like to make a few general comments about our work schedule and practical arrangements for the session.

As in the past, the provisional schedule of work contained in the agenda we have just adopted will be as flexible as possible and can be adjusted as we proceed with our work. As I mentioned in my opening statement, however, if it appears that we may conclude our session earlier, we must inform the Secretariat of this as soon as possible so that conference services staff can be assigned to other duties.

Our meetings will be held from 10 a.m. to 1 p.m., and from 3 p.m. to 6 p.m. It is important that we adhere as strictly as possible to these starting times, and I urge members to cooperate with the Chair in order to make the maximum use of the conference facilities and services made available to us.

General Exchange of Views

The Chairman: The first speaker on this item is the Deputy Minister for Foreign Affairs of Poland, Mr. Eugeniusz Wyzner, who is very well known to many members of the Committee, with which he has been associated for a very long time. He was also an outstanding functionary in the United Nations Secretariat.

Mr. Wyzner (Poland): Thank you very much, Mr. Chairman, for your kind words of welcome.

It gives me great pleasure to address the Committee on behalf of the Polish delegation during this, the thirty-eighth session of the Committee on the Peaceful

Uses of Outer Space. May I be forgiven for striking a personal note related to the work of the Committee. My association with it began a quarter of a century ago, when I was entrusted with the task of chairing its Legal Subcommittee. For 15 years I submitted that Subcommittee's reports to the sessions of the Committee. That is why I value so much this chance to renew my participation in its important work.

As I address the Committee under your guidance, Mr.Chairman, I cannot fail to note your qualities of expert leadership and astute diplomatic skills. I am delighted to see that the years that have elapsed since your election have fully demonstrated how right that choice was.

I extend our warm congratulations to Ambassador Mazilu on his well-deserved election to the vice-chairmanship of the Committee.

I also owe a special tribute to Professor Carver, who has led the Scientific and Technical Subcommittee with distinction for an unprecedented period, as well as to my successor, Mr. Mikulka, the talented Chairman of the Legal Subcommittee. But it gives me particular pleasure to meet again my good friend Mr. Jasentuliyana, the Deputy to the Director-General and Head of the Office for Outer Space Affairs of the Secretariat. There is hardly anybody who can command better expertise and knowledge in performing these demanding functions. No wonder, therefore, that after the death of my mentor and friend, a true giant of international law — Manfred Lachs — it was Dr. Jasentuliyana who was selected to succeed him as President of the International Institute of Space Law (IISL) in Paris.

It happens more and more nowadays that the successful outcome of intergovernmental activities in certain spheres of life is determined by the support they can muster among non-governmental organizations and in public opinion as a whole. I believe that we are fortunate indeed to enjoy the growing interest and support of such a fine institution as the IISL and of the International Astronautical Federation (IAF). During my long years as a member of the Board of Directors, and now as honorary director of the Paris Institute, I have had a rare opportunity to admire the members of the IISL and their multifaceted activities aimed at strengthening the rule of law in outer space and spreading its knowledge among academia and the public in general.

This is for my delegation an exceptional occasion as we solemnly celebrate the fiftieth anniversary of the United Nations this year. Therefore let me suggest that we should avail ourselves of this opportunity to sum up the achievements of the United Nations in the development of international cooperation in the field of the peaceful uses of outer space and to outline further steps to be taken in this important area.

Just one month ago I was heading the delegation of Poland to the Review and Extension Conference of the parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), which was held in New York. It was one of the most important and difficult conferences this year. Its successful outcome, the indefinite extension of the Treaty — the goal Poland was determined to pursue from the outset — was possible owing to the common perception of the risk of proliferation and its negative impact on international security, as well as the realization of the fact that failure to do so would be detrimental to cooperation in the peaceful uses of nuclear energy.

A favourable political climate, deriving from other disarmament steps undertaken in international forums, seems to be conducive to further intensification of international cooperation in all areas, including the peaceful exploration and use of outer space. Let me recall that last year the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space of the Conference on Disarmament was able for the first time to agree that it favoured closer cooperation with this body on issues of mutual concern.

The development of specific confidence-building measures in outer space activities is just one example of the concern shared by various international bodies acting in the outer space domain. For the sake of transparency, confidence and security, such means as advance notice of launch activities, rules-of-the-road measures and requirements for an international outer space monitoring system and a communications network should be elaborated, recommended and applied.

The present generation is the eye-witness of an extraordinary development in technology, which has made possible more and more effective exploration and practical exploitation of outer space for the benefit of mankind. You, Mr. Chairman, in your introductory statement, noted many important examples. Given the increasing number of space activities and their participants, it has become necessary to elaborate and develop legal rules for these activities, with the aim of maintaining and strengthening peaceful cooperation between States in this field of international relations.

In this quickly developing world of ours, it is no longer possible, as was traditionally the case, for the rules of law to follow a few steps behind the facts. If the rules of law are to be effective and really useful, they must be created in a timely fashion, with due recognition of the political, legal, scientific and technological progress made so far.

The Committee on the Peaceful Uses of Outer Space, in its activities, seems to meet these requirements. The item on "International cooperation in the peaceful uses of outer space" was included on the agenda of the twenty-third session of the General Assembly for the first time in 1958, and since then has appeared there regularly every year. Also in 1958, the Ad Hoc Committee was established. As a result of the deliberations of this Committee and its Subcommittees, the General Assembly adopted the texts of very important legal instruments regulating space activities. As members know full well, these have included five essential international instruments: the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies; the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space; the 1972 Convention on International Liability for Damage Caused by Space Objects; the 1975 Convention on Registration of Objects Launched into Outer Space; and the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. I was indeed privileged to preside over the successful negotiation and drafting of the last four of these instruments.

In addition, through the efforts of the Committee and of its Legal Subcommittee, a number of other contributions to outer space law have been made in the form of General Assembly resolutions, starting with the famous 1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space. Subsequently, three sets of principles concerning the practical application of space technologies have been elaborated, formulated and adopted: those on international direct television broadcasting (1982), on remote sensing of the Earth from space (1986), and on the use of nuclear power sources in outer space (1992).

In addition, one cannot overestimate the importance of the two United Nations Conferences on the Exploration and Peaceful Uses of Outer Space, held in 1968 and 1982. The implementation of recommendations adopted by the UNISPACE Conferences has become one of the primary tasks of the Committee on the Peaceful Uses of Outer Space and its Subcommittees within the continued Programme on Space Applications. Finally, the celebration, under the auspices of the United Nations, of 1992 as International Space Year has been connected with joint efforts to foster international cooperation.

It may be said, without any exaggeration, that the United Nations has indeed become a focal point for international cooperation in outer space and for the formulation of the necessary international rules. However, it must be admitted that, despite this Committee's unquestionable achievements, its activities and those of its Subcommittees have in many instances been limited and hampered by political, economic and other differences between States. As a result, there is a lack of consensus as to how some important problems that have appeared on the agenda for many years should be solved. Other questions have been eventually settled only in the form of non-binding declarations instead of international treaties and conventions.

Yet, as you yourself, Mr. Chairman, emphasized in 1993,

> "The dramatic changes in the international security situation have contributed to substantive progress within the Committee over the past few years and have helped foster a new sense of cooperation within this body". (*Official Records of the Committee on the Peaceful Uses of Outer Space. Thirty-Sixth Session, Plenary Meetings, 379th meeting, p. 26*)

We should use this unique opportunity to the greatest possible extent.

There are, however, some new challenges which we have to face as well. One of these, which my country considers as being of crucial importance, is the problem of space debris which was included for the first time on the agenda of the thirty-first session of the Scientific and Technical Subcommittee. We fully support further consideration of this item on a priority basis.

The Polish delegation is generally in favour of the work plan adopted by the Scientific and Technical Subcommittee at its last session concerning the measurement of space debris, modelling of the space debris environment, risk assessment and, finally, space debris mitigation measures. We consider, however, that concurrently with this general plan, certain specific measures could already be adopted at this stage.

Therefore I wish to recall our earlier proposal, submitted to this Committee, that all users of the geostationary orbit should be responsible for removing their space objects from the orbit after their work is completed. We believe that such a decision would constitute an important step forward in eliminating a source of danger to other users of outer space.

Furthermore, my country is of the opinion that the question of space debris is in fact only a part of the much more general problem of the protection and preservation of the outer space environment. Aware of the growing threat both to the Earth and to the space environment posed by expanding space activities, we consider that the general issue of the protection and preservation of the outer space environment should be included as one of the leading items on the agenda of the next UNISPACE conference.

Recognizing the importance of the first and second UNISPACE Conferences, Poland fully supports the idea of convening a third UNISPACE conference, as expressed in the last report of the Scientific and Technical Subcommittee. We consider such an event to be useful and timely, due to the rapid advances in all fields of space science and technology and the extraordinary changes on the international political scene after the end of the cold war. At the same time, however, we consider that such a conference, to be really effective and successful, would require thorough preparation. It should therefore be convened no earlier than 1998.

Another significant subject to be discussed by the Committee during this session — and one that caused the introduction of two rival working papers during the last session of the Legal Subcommittee — is the question of sharing the benefits of space activities. We are deeply convinced that the possibility still exists of reaching a compromise between, on the one hand, the justified interests and needs of developing countries, together with their aspirations to obtain access to modern space technologies, and, on the other hand, the freedom of States to determine all aspects of their cooperation as promoted by the developed countries. Though not so easy to obtain, such a compromise would seem to be the only way to ensure the effective application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all States, taking into particular account the needs of developing countries.

The Polish delegation is in favour of looking for a compromise in respect of yet other problems that have remained unsolved for more than 30 years — namely, the delimitation and definition of outer space and the character and utilization of the geostationary orbit. We generally agree that in the face of long-polarized views and opinions, a completely new approach seems to be required. Such a new approach may be easier to find now, since the question of delimitation has lost, to a great extent, its previous political and military context. With regard to the long-disputed question of the character and utilization of the geostationary orbit, the Polish delegation maintains its conviction that the principles of equitable access to, and rational use of, the geostationary orbit should be applied, without, however, this orbit being the object of any national appropriation or claim of sovereignty. At this juncture one cannot overlook the important role played by the International Telecommunication Union and its functions performed for the benefit of all States.

The Committee on the Peaceful Uses of Outer Space and its Subcommittees are facing new and ever growing challenges which cannot be met without a review of the methods of operation of these organs. Appropriate suggestions to this end were made during the last sessions of both Subcommittees. Endowed with the appropriate instruments of its work, the Committee would be better equipped to face the impact of current political changes in international cooperation in space activities.

The Committee, in our view, should also apply a wider formula for external specialists' contributions to its work. The existing or new channels of cooperation with international governmental and non-governmental institutions active in the field of the exploration and use of outer space could be used more effectively. There is a real chance to give new momentum to the work of the Committee and its subsidiary organs, which are facing new problems that could be solved in the context of new political, economic and social conditions. Furthermore, closer and more effective cooperation between the Legal and the Scientific and Technical Subcommittees, as well as close coordination of the issues included in the agendas of both Subcommittees, are essential to our success.

To conclude, let me say that my coming here and having an opportunity to meet old friends and colleagues is not a mere nostalgia trip. First and foremost, it is an opportunity for my Government to restate its interest in, and attachment to, the cause of exclusively peaceful uses of outer space and the sharing of mankind's technological and legal achievements in this area for the benefit of all. At the same time, we are looking forward to the growing

importance of this Committee as a meaningful factor in the development of international cooperation in the exploration and peaceful uses of outer space.

Mr. Cruz Júior (Portugal): On behalf of my country, a full member, I wish to congratulate you, Sir, on the important role you will play as Chairman of this Committee.

During recent years Portugal has attached the utmost importance to the issues of the peaceful uses of outer space, and in particular to the promotion of international cooperation relating to the exploration of remotely sensed satellite imagery for natural- resource assessment and land-use management, specifically oriented towards the needs of developing countries, particularly those of the Portuguese-speaking African nations.

Indeed, Earth observation satellite imagery can undoubtedly play a major role in the analysis and formulation of alternative strategies for sustainable development. However, as far as the exploration of remotely sensed satellite data is concerned, there is still a need to pursue the development of operational methodologies and procedures in order to allow their systematic use within the current activities of environmental assessment and natural-resource management.

In accordance with the recommendations of the United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82), Portugal has engaged in the development of activities aimed at the operational use of satellite data, particularly in the fields of land cover and natural-vegetation satellite-derived cartography, agricultural statistics and forest inventories, studies of sea-upwelling phenomena and sea-water pollution characterization, as well as topographic satellite-derived cartography and geological applications.

At present Portugal is offering a set of programmes for education and training in the above-mentioned areas. These programmes are already taking place and involve trainees from some African countries. These cooperation activities are intended to be extended throughout the current and the following years, particularly through cooperation projects applied to specific regions of developing countries which are aimed at the operational use of satellite imagery.

Now I wish to give the Committee some information relating to recent space activities in Portugal.

During 1993 an interministerial coordination body for aerospace activities, known as the Space Council, was created by our Government. This Council was entrusted, *inter alia*, with the task of negotiating Portugal's adhesion to European Space Agency (ESA). A cooperation agreement between Portugal and the ESA will be signed in the near future as a preliminary phase before full membership.

Though Portugal has during recent years been internationally involved with several organizations, such as EUTELSAT, INTELSAT and INMARSAT, in the areas of telecommunications and remote sensing, the launching in 1993 of a POSAT 1 satellite for scientific and training purposes was the first step towards establishing a Portuguese industrial consortium to develop space technology.

Finally, I should like to stress a future initiative.

In 1998, for the first time, the United Nations will proclaim the international year of the oceans. In this context, it is the intention of the Portuguese authorities to convene, within the framework of EXPO 98, in Lisbon, an international conference or cluster of symposia concerned with the use of space-based data in connection with the oceans, be it for improved scientific knowledge of physical processes in the ocean, better weather forecasting or remote sensing relating to the exploration of sea resources within the context of sustainable development, all with the aim of strengthening the dialogue between the providers of satellites and the users of their services.

The Chairman: If no other member wishes to speak in the general exchange of views, I should like now to call on the Director of the Office for Outer Space Affairs, Mr. Jasentuliyana, who will provide the Committee with an overview of the activities of the Office during the past year.

Mr. Jasentuliyana (Director, Office for Outer Space Affairs): In response to requests by delegations at past sessions of the Committee, I should like to provide a brief review of the work of the Office for Outer Space Affairs over the past year and of the documents prepared by the Office for this session of the Committee.

The past year has been one of consolidation for the Office for Outer Space Affairs. We are now fully settled in our new home here at the Vienna International Centre and fully up to speed with regard to the new

responsibilities that we were given upon our relocation in November 1993.

The relocation to Vienna has proved positive on several fronts. Our presence in Europe has facilitated our already-strong cooperation with many national space agencies, including the German Space Agency (DARA), the National Centre for Space Studies of France (CNES) and the Austrian Space Agency, and has helped to strengthen our relationship with our colleagues at the European Space Agency, who over the years have provided invaluable support for the work of our Office.

With regard to staff, I am pleased to report that there has been very little turnover in the personnel of the Office. This has helped us to maintain the high level of work that the Office is accustomed to and has allowed the working relationships between our Office, Member States and other concerned entities to flourish.

In order to fill the vacancy created by Mr. Sergio Camacho's transfer to the post of Chief of the Office's Committee Services Section, a new staff member has been recruited for the Programme on Space Applications. That staff member, Mr. Hubert George, a national of Canada and a specialist in remote sensing training with extensive experience in developing countries, joined the Office in December 1994 as a training officer.

The Government of Austria has extended its practice of generously supporting the Office through the employment of an associate expert. In this respect, Mr. Stephan Mayer, a specialist in remote sensing, joined the Office in January, replacing Mr. Christian Hoffman, who had completed a highly productive two-year assignment. I should like to express our great appreciation to the Government of Austria for its generous support, which enables us to better serve the Committee and Member States.

As I have noted in the past, in addition to the staff fully dedicated to the Programme on Space Applications, all the other staff of our Office also support the Programme as required, and all the non-staff financial resources available to the Office are devoted to the Programme on Space Applications, primarily for the participation of developing countries in Programme activities.

It will be recalled that, acting upon the recommendation of the Subcommittee and the Committee on the Peaceful Uses of Outer Space, the General Assembly last year approved a slight funding increase for the Programme on Space Applications for the biennium 1994-1995. However, no additional increase will be forthcoming for the next biennium owing to the organization-wide goal of a zero-growth budget for the 1996-1997 biennium.

The Office for Outer Space Affairs has, over the past several years, been able effectively to maintain the Programme on Space Applications and, indeed, to expand its activities, thanks to the generous voluntary contributions of Member States, the specialized agencies of the United Nations and other international organizations. In particular, I should like to thank the Government of Austria, the European Space Agency, which provided substantive funding, and the host countries that provided local facilities, transportation and accommodation for Programme activities in 1994 and for those 1995 activities that have already taken place. It should be noted that this type of support is urgently needed, as the regular budget generally provides less than one third of the total cost of the training courses, seminars and workshops organized by the Programme. The need for voluntary contributions is likely to increase in the future as we attempt to further expand the Programme on Space Applications without increases from the regular United Nations budget.

The reports of the 1994 activities of the Programme on Space Applications and information on the 1995 activities now under way were submitted to and reviewed by the Scientific and Technical Subcommittee, as indicated in its report (A/AC.105/605). The proposed activities for 1996 were reviewed by the Subcommittee and recommended for approval. Subject to the approval of this Committee and the General Assembly, planning for the 1996 activities is now under way. The staff of the Programme on Space Applications and the entire Office have worked hard to ensure the effective and efficient organization of these activities, and I would particularly like to acknowledge the work done by Mr. Abiodun, the expert on space applications, in organizing and coordinating these activities. He will provide the Committee with a more detailed look at the activities of the Programme on Space Applications later this week.

Following the recommendation of the Subcommittee and the Committee, one of the major efforts currently being undertaken by the Office in implementation of the recommendations of the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE 82) is the establishment of

regional Centres for Space Science and Technology Education in developing countries. There has been much progress on this initiative since last year, and arrangements are currently being implemented to establish the first two of these centres — in the Latin American and Caribbean and Asia-Pacific regions. The Office is also continuing its fruitful discussions regarding a centre for countries covered by the Economic Cooperation Organization (ECO), as well as regions served by the other United Nations regional commissions.

We are pleased to see that the efforts of the United Nations and Member States are finally beginning to bear fruit. The next steps of this project will depend on the Member States that have offered to host these centres, as well as interested donor countries.

The Office has been working to provide services to Member States through the International Space Information Service, the establishment of which was recommended by UNISPACE 82 and endorsed by the General Assembly in its resolution 37/90 of 1982.

Efforts to expand this service have in the past been hampered by the limited resources of the Office. Since our relocation to Vienna, however, we have been able to take advantage of the better computing facilities at the Vienna International Centre to establish a limited database capability that has enhanced our ability to respond to requests for information from Member States and non-governmental and intergovernmental organizations, as well as from the general public.

As a first step in the process of expanding the International Space Information Service, the Office has created a gateway, or Home Page, on the "information super-highway" known as the Internet. The Home Page allows those with Internet access to learn more about the work of the Office and the space-related activities of the United Nations. It currently contains information on all the space-related legal instruments adopted by the General Assembly, including their full texts, information on the Committee on the Peaceful Uses of Outer Space, an overview of the Space Applications Programme, information submitted by Member States on the topic of space debris and a "frequently asked questions" page where common questions relating to the United Nations and outer space, the Committee and the Office are answered.

The creation of the Home Page is another step in the development of the broad information system envisioned by UNISPACE 82. The information it contains will be updated on a regular basis, and more detailed information, including technical information, will be added in the future.

In this connection, the Office earlier this year began discussions with the Committee on Earth Observation Satellites (CEOS) and the German space agency, DARA, on conducting a feasibility study on how to further augment the Space Information Service by establishing electronic links that would enable users to tap into the myriad of space information currently available on the Internet. Although the study is still in its earliest stages, we are very much looking forward to the results and to implementing any recommendations it may contain in order more fully to develop the International Space Information Service.

As part of the work of the Office and our objective of promoting the exchange of information on space activities, particularly those activities that are relevant and useful to developing countries, in 1994 we published and distributed a number of documents specifically related to space applications for economic and social development. For the sixth time, we have published a collection of technical papers from the seminars, workshops and training courses of the Programme on Space Applications (A/AC.105/584), which was distributed today to members. These papers were selected on the basis of their interest to and utility for developing countries. These collections are published annually, and we hope they help improve the international exchange of information concerning space applications for developing countries.

Also as part of the International Space Information Service, and in response to a request by the Subcommittee's Working Group of the Whole at its last session, the Office this year prepared two technical studies for the Subcommittee. The first, "Global change: the Participation of Developing Countries and Possibilities of Enhancing It", was prepared by Dr. Petr Lala and is contained in document A/AC.105/590. The second, "Satellite-based Radio Broadcasting Services", was prepared by Mr. Victor Kotelnikov, and is contained in document A/AC.105/591. Both technical studies were submitted to outside experts for review prior to publication, and we would like to thank those individuals for providing this valuable service at no cost to the Office. Other technical studies, on basic space science in developing countries, small microsatellites, space applications for sustainable development and tele-

education programmes, are being prepared and should be completed in the near future.

I would also note that information on the space activities of Member States is contained in document A/AC.105/592 and Add.1-5, which were before the Subcommittee and are now available to this Committee, and that reports on international space activities have been submitted in response to the request by the Subcommittee by Austria, Belgium, Canada, Chile, Egypt, Finland, Honduras, India, Japan, Morocco, the Philippines, Poland, Portugal, the Republic of Korea, Russian Federation, Saudi Arabia, Syria, Thailand, Turkey, the United Arab Emirates and the United Kingdom. Those reports contain information requested by the Subcommittee and its Working Group of the Whole, including information on national and cooperative international space activities, including spin-offs, information on resources and capabilities of States in space activities for promoting cooperation, and information on activities that could be the subject of greater international cooperation. The fact that so many countries responded to the request of the Committee illustrates the growing importance that countries place on their space activities, as well as on the work of the Committee. In addition, several replies were received from international organizations, and these are contained in document A/AC.105/601.

At the invitation of the Subcommittee, the Committee on Space Research (COSPAR) and the International Astronautical Federation (IAF), in cooperation with our Office, again organized a technical symposium on the special theme chosen by the Scientific and Technical Subcommittee for its 1995 session, "Applications of space technology for education, with particular emphasis on its use in developing countries". In addition, a number of Member States arranged presentations on the special theme or on other agenda items.

Because these presentations contain much interesting and valuable information on the latest developments in space applications, the Office again this year prepared a summary of the presentations for distribution to the Committee. That summary is contained in document A/AC.105/606. I would like to acknowledge the work of Mr. Petr Lala and Mr. Mayer in preparing this report.

I should like also to take this opportunity to thank COSPAR and IAF for their effort in organizing the symposium. They enlisted some of the foremost experts in the rapidly developing field of space applications for education, and the presentations were both timely and highly informative.

If there are any delegations interested in making special presentations during this session of the Committee, I would ask them to consult with the Secretariat concerning scheduling and any audiovisual equipment that may be required. According to our customary practice, these presentations will normally take place following completion of the list of speakers inscribed for the meeting.

I should now like briefly to review our Office's cooperation with other international and regional organizations over the past year. The coordination of space activities within the United Nations system is conducted through the Inter-Agency Meeting on Outer Space Activities. The annual meeting allows all entities of the United Nations system to exchange information on planned space-related activities and to coordinate those activities in order to prevent duplication of work and to plan joint and complementary activities. The 1994 session of the meeting took place here at the Vienna International Centre. The report of the meeting was submitted to the Scientific and Technical Subcommittee in document A/AC.105/582. A valuable report containing a review of the activities planned by the United Nation system for 1995, 1996 and future years was prepared for the approval of the meeting and was also submitted to the Scientific and Technical Subcommittee in document A/AC.105/587, which is available to this Committee. The next Inter-Agency Meeting will be held in October in Vienna.

The Office for Outer Space Affairs has continued its close cooperation with COSPAR and IAF, and I should like to express our appreciation for the support these organizations provided in 1994. We have again issued the publication "Highlights in Space". This document was prepared with the assistance of COSPAR, which submitted its report on progress in space research, and IAF, which submitted a report on space science and applications. The International Institute of Space Law (IISL) provided input for the section on space law. These reports were prepared with the assistance of many international experts and are authoritative and informative reviews of the most significant developments of 1994. They have been edited and compiled into "Highlights in Space — Progress in Space Science, Technology and Applications, International Cooperation and Space Law", which was distributed as document A/AC.105/583.

Working with IAF, the Office again organized — prior to the annual IAF Congress, held in Israel in October 1994 — a Workshop specifically geared towards the needs of developing countries. The theme of the workshop, co-sponsored by the United Nations, IAF, the European Space Agency (ESA) and the Commission of the European Community and organized with the invaluable assistance of the Government of Israel, was "Benefits of Space Technology for the Developing World — From Economic Growth to Environmental Protection". This was the fourth in a continuing series of activities, and the Office is now in the process of organizing the fifth workshop for developing countries, entitled "Space Technology for Health Care and Environmental Monitoring in the Developing World", which will take place prior to the 1995 IAF Congress, to be held in Oslo from 28 September to 1 October of this year.

Just prior to the opening of the 1995 session of the Legal Subcommittee, the Office, with the cooperation of the International Institute of Space Law and the Institute of Air and Space Law of McGill University in Canada, organized a symposium on "Technical and Policy Issues Related to the Use of the Space Environment". The symposium featured several prominent authorities on these issues and was generally well received by delegations. It is hoped that such symposia will in future continue to be organized so that they may provide valuable information to representatives on emerging issues relevant to the Subcommittee's discussions.

During the past year the Office for Outer Space Affairs has again enjoyed generous support from INTELSAT, INMARSAT and the European Space Agency, which has continued its strong tradition of providing substantial financial and technical assistance for the activities of the Programme on Space Applications. I should like to express the appreciation of the Office for Outer Space Affairs to all these organizations for their support.

In the area of regional cooperation, the Office supported the preparations for, and participated in the Ministerial Conference on Space Applications for Development in the Asia and the Pacific Region, which was held in Beijing in September 1994. The Office has also launched an effort, with the United Nations Development Programme (UNDP), to establish the COPINE project to develop a regional computer network to link African space scientists and experts. This project has developed from the recommendations of the 1993 Regional Conference on Space Technology for Sustainable Development, held in Dakar, Senegal, and once again illustrates how the activities of the Programme on Space Applications can serve as fertile ground for the development of innovative ideas for the use of space technology. The Office also continues to work closely with the Asia-Pacific Satellite Communications Council, established as a direct result of a United Nations-sponsored workshop held in Seoul, Republic of Korea, in 1992, and with the *pro tempore* secretariat established to implement the recommendations of the Second Space Conference of the Americas, held in Santiago, Chile in 1993.

The Office also co-sponsored an International Conference on Near Earth Objects, held in New York last April, and was an active participant in the recent Conference on Space Technology in Development, held in Tehran just last month.

As many members are aware, as part of the relocation of the Office for Outer Space Affairs to Vienna, we have organized a permanent exhibit of space-related items here at the Vienna International Centre. The exhibit emphasizes international cooperation in space activities and focuses on the practical uses of space technology, particularly for environmental monitoring and natural-resource management. It is seen by the approximately 70,000 annual visitors to the Vienna International Centre, most of whom are secondary-school students.

The exhibit has recently been augmented by a wide range of material donated by the Russian Federation. I would urge all delegates that have not yet seen the exhibit, which is located on the sixth floor of the G building here at the Vienna International Centre, near the office of the United Nations Information Service and the visitors' services — to do so during this session of the Committee. I am sure all will find it informative.

I would like to thank all Member States that have provided materials for the permanent exhibit. If there are any others who wish to participate by providing additional space-related hardware, please contact our Office and we will ensure your inclusion in the next phase of the exhibit.

As we are all aware, 1995 marks the fiftieth anniversary of the establishment of the United Nations. Throughout the year, many official activities are planned to mark this important occasion, which will culminate with the activities planned for 24 October, which is celebrated around the world as United Nations Day. In

this regard, I am pleased to inform delegates that the Office for Outer Space Affairs, with the gracious cooperation of the United States National Aeronautics and Space Administration (NASA) and the Russian Space Agency, has arranged for this anniversary to be marked by a 10-minute video conference between the Secretary-General and the astronauts and cosmonauts aboard the space shuttle and Mir space station during the second docking mission, which will take place between 27 October and 2 November 1995. The Secretary-General will note the important role that the United Nations has played in promoting international cooperation in the peaceful uses of outer space, and the United Nations flag, as well as special commemorative editions of the space treaties, which will be carried on board the mission, will be displayed during the video-conference.

As we look back at the achievements of the United Nations and the Committee, the anniversary of the Organization is also prompting us to look forward to the future. In the context of the preparation in the next few years of the next medium-term plan for the period 1998 to 2002, the Office will be considering ways to ensure its continued relevance in the twenty-first century. The Committee and the Office must seek ways, in the context of fulfilling their mandate to serve as a focal point for international cooperation in space activities and as a catalyst for integrating space technologies into the overall activities of the Organization, particularly as they relate to the implementation contained in the Secretary-General's major policy statements, "An Agenda for Peace", "An Agenda for Development" and "International cooperation in space activities for enhancing security in the post-cold-war era", as well as those recommendations arising from the continuum of world Conferences of the United Nations that began with the 1992 United Nations Conference on Environment and Development (UNCED) in Brazil.

As members know, the Committee and the Secretariat have done much work on analyzing the conclusions of UNCED to determine how space technology might be applied to implementing the recommendations contained in the Agenda 21 policy document, and many activities of the Programme on Space Applications are already oriented towards achieving the goals of the Organization, particularly in terms of social and economic development.

Further consideration is needed, however, of how better to align the work of the Committee and the activities and work programme of the Office with the goals and priorities set by the Secretary-General for the coming years and the recommendations of the United Nations world Conferences in economic, social and environmental areas. We look forward to working with the members of the Committee in the development of these plans and, in this regard, it should be noted that the proposed third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE), and the discussions now under way regarding the organization of such a conference, could provide a valuable forum for the consideration of these issues by all Members States of the United Nations.

Concerning the conference services for this session of the Committee, I should like to remind delegates that the work of the interpreters will be greatly facilitated if delegations can provide the texts of statements to the conference officer as far in advance of the statement as possible. I should like to remind those representatives who wish to circulate their statements in the Committee that they should provide the conference officer with not fewer than 100 copies.

I would also like to remind the members that while press releases are issued on the proceedings of the Committee's meetings, they do not constitute the official records of the meetings and are the responsibility of the United Nations Information Service. The verbatim records that will be issued in due course are the official records of the Committee's proceedings. As noted in the information for participants distributed prior to the session, delegations are requested to discuss any matters related to the press releases with the Information Service.

With regard to the records of the Committee, members will recall that last year, after receiving a request from the Committee on Conferences for justification of the need for verbatim records, the Committee requested the Secretariat to provide information on the various alternatives to verbatim records. That information is now before the Committee in document A/AC.105/C.1/L.207. Delegates will note that the document sets out several alternatives and contains the costs for each. As the Chairman noted in his opening statement, the document could form the basis for discussions by the Committee on this matter, which are likely to be conducted in the context of the Committee's consideration, through its Working Group of the Whole, of the working methods of the Committee and its subsidiary bodies.

This has been a brief review of the work of the Office for Outer Space Affairs over the past year. As always, the staff of the Office is ready to assist the work

of the Committee and its member delegations in any way in order to increase the substantive nature of this session and to promote our common goal of ensuring the peaceful uses of outer space.

The Chairman: If no delegation wishes to speak at this stage, I will now adjourn the meeting.

The meeting rose at 5.30 p.m.